

Claims

- [c1] 1.A plastic film, comprising:
- a. at least one sealing layer, comprising at least one member of the group consisting of low density polyethylene, linear low density polyethylene, ethylene ester copolymers, ethylene alpha olefin copolymers, polypropylene copolymers or homopolymers, very low density polyethylene, polybutylene, styrene based copolymers, ionomers and ethylene methacrylic acid copolymers;
 - b. at least one barrier layer, comprising polyvinylidene chloride polymers;
 - c. at least one intermediate layer, comprising ethylene ester copolymers, ethylene ester polymers, chemically modified polyethylenes and/or chemically modified polypropylenes.
- [c2] 2.A plastic film according to claim 1, characterized in that said film comprises two outer sealing layers.
- [c3] 3.A plastic film according to claim 1, characterized in that said film comprises one barrier layer.
- [c4] 4.A plastic film according to claim 1, characterized in

that said film comprises two or more intermediate layers.

[c5] 5.A plastic film according to claim 1, characterized in that said film comprises 2–10 intermediate layers.

[c6] 6.A plastic film according to claim 1, characterized in that said film comprises 4–8 intermediate layers.

[c7] 7.A plastic film according to claim 1, characterized in that said film comprises 6 intermediate layers.

[c8] 8.A plastic film according to claim 1, characterized in that said one or more intermediate layers comprise one or more ethylene ester polymers.

[c9] 9.A plastic film according to claim 8, characterized in that said one or more intermediate layers comprise one or more members of the group consisting of ethylene vinyl acetate copolymers, ethylene methyl acrylate copolymers, ethylene ethyl acrylate copolymers, ethylene methyl methacrylate copolymers, ethylene butyl acrylate copolymers and terpolymers of said polymers.

[c10] 10.A plastic film according to claim 8, characterized in that said one or more intermediate layers comprise an ethylene vinyl acetate copolymer.

[c11] 11.A plastic film according to claim 8, characterized in that said one or more intermediate layers comprise an

ethylene methyl acrylate copolymer.

- [c12] 12.A plastic film according to claim 1, characterized in that said sealing layer comprises an alpha-olefin plastomer copolymer.
- [c13] 13.A plastic film according to claim 1, characterized in that said sealing layer comprises an ethylene-vinyl acetate copolymer.
- [c14] 14.A plastic film according to claim 1, characterized in that said sealing layer comprises an alpha-olefin plastomer copolymer and an ethylene-vinyl acetate copolymer.
- [c15] 15.A plastic film according to claim 1, characterized in that said barrier layer comprises one or more polyvinylidene chloride polymers selected from the group consisting of methyl acrylate-polyvinylidene chloride copolymer and vinylidene chloride copolymers.
- [c16] 16.A plastic film according to claim 1, characterized in that said barrier layer comprises a methylacrylate-polyvinylidene chloride copolymer.
- [c17] 17.A plastic film according to claim 1, characterized in that said one or more intermediate layers comprise one or more pigments.

- [c18] 18.A plastic film according to claim 1, characterized in that said one or more intermediate layers comprises a material comprising 70% white TiO₂ pigment.
- [c19] 19.A plastic film according to claim 1, characterized in that said sealing layer(s) comprise(s) additives in suitable amounts, such as to improve the machinability or other properties of the film.
- [c20] 20.A plastic film according to claim 19, characterized in that said sealing layer(s) comprise(s) as said additives slip agents and/or polymer processing agents.
- [c21] 21.A plastic film according to claim 19, characterized in that said sealing layer(s) comprise(s) said additives in an amount of 1–10 wt.-%.
- [c22] 22.A plastic film according to claim 19, characterized in that said sealing layer comprises an additive comprising 5% of erucamide and 10 % natural silica.
- [c23] 23.A plastic film according to claim 1, having the following structure:
- a. an outer heat sealing layer comprising:
74% of an alpha-olefin plastomer copolymer, wherein the plastomer is Affinity PL-1880 from Dow having a melting point of 99C, a density of 0.902 and a melt index of

1.0g/10min;

24% of an ethylene–vinyl acetate copolymer EVATANE 1003 VN4 material, having MFI 0.35 and 14% VA;

2% of slip additives and polymer processing aids;

b. an adjacent intermediate layer, consisting of EVA copolymer ELVAX 3165(DUPONT), having 18% VA and a melt flow index (MFI) of 0.7;

c. an adjacent intermediate layer, consisting of EVA copolymer ELVAX 3190(DUPONT), having 25% VA and MFI 2;

d. an adjacent intermediate layer, comprising 70% of EMA copolymer LOTRYL 29 MA03, having 29% MA and MFI 3 and 30% of EMA copolymer LOTRYL 24MA005, having 24% MA and MFI 0.6;

e. an adjacent barrier layer, consisting of MA–PVDC copolymer, namely XU 32019.1 OL material,

f. an adjacent intermediate layer, comprising 70% of EMA copolymer LOTRYL 29 MA03, having 29% MA and MFI 3 and 30% of EMA copolymer LOTRYL 24MA005, having 24% MA and MFI 0.6;

g. an adjacent intermediate layer, consisting of EVA copolymer ELVAX 3190(DUPONT), having 25% VA and MA 2;

h. an adjacent intermediate layer, consisting of EVA copolymer ELVAX 3165(DUPONT), having 18% VA and 0.7 MFI; and

i. an outer heat sealing layer, comprising:
74% of an alpha-olefin plastomer copolymer, which plastomer is Affinity PL-1880 from Dow having a melting point of 99C, a density of 0.902 and a melt index of 1.0g/10min;
24% of an ethylene-vinyl acetate copolymer EVATANE 1003 VN4 material, having MFI 0.35 and 14% VA;
2% of slip additives and polymer processing aids.

[c24] 24.A plastic film according to claim 1, characterized in that said film is irradiated.

[c25] 25.A plastic film according to claim 1, characterized in that said film is a coextruded film.

[c26] 26.A plastic film according to claim 1, characterized in that said film is a hot-blown film.

[c27] 27.Process of chub packaging, comprising packaging a product with a film according to claim 1.

[c28] 28.A chub package made from the film of claim 1.